

10.2.8 $\alpha = 0.01$

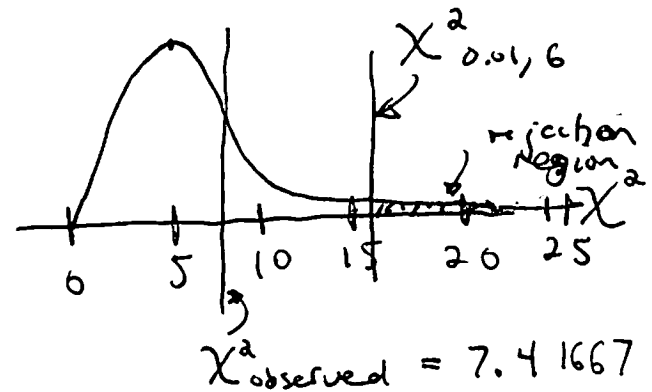
Chi-Square Goodness-of-Fit Test for Observed Counts in ... f Fatalities

Using category names in Day

Observed and Expected Counts

| Category | Observed | Test Proportion | Expected | Contribution to Chi-Square |
|----------|----------|-----------------|----------|----------------------------|
| Sun | 40 | 0.142857 | 30.8571 | 2.70899 |
| Mon | 24 | 0.142857 | 30.8571 | 1.52381 |
| Tue | 25 | 0.142857 | 30.8571 | 1.11177 |
| Wed | 28 | 0.142857 | 30.8571 | 0.26455 |
| Thu | 29 | 0.142857 | 30.8571 | 0.11177 |
| Fri | 32 | 0.142857 | 30.8571 | 0.04233 |
| Sat | 38 | 0.142857 | 30.8571 | 1.65344 |

$H_0: P_{Mon} = P_{Tues} = \dots = P_{Sun}$
 $H_1: \text{At least one of the } p_i \text{ are different}$



Chi-Square Test

| N | DF | Chi-Sq | P-Value |
|-----|----|---------|---------|
| 216 | 6 | 7.41667 | 0.284 |

$\chi^2_{0.01, 6} = 16.182$ (from table)

Chart of Observed and Expected Values

Since $\chi^2_{observed} < \chi^2_{0.01, 6}$, we do not reject the null.

Chart of Contribution to the Chi-Square Value by Category

Thus, we do not have sufficient evidence to claim fatal DWI crashes occur due to casual drinkers (those who only drink on Friday, Saturday).